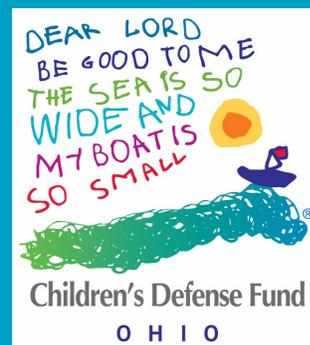


Birth Equity – A Pathway Forward



Pixabay user btchurch, *untitled*.

October 2017



Executive Summary

A woman's experiences have an incredible impact on her baby's birth outcomes. The stress patterns and social and economic environments that she has endured throughout her life will largely contribute to the health of her baby. While major public health agencies are recognizing the value in viewing infant mortality in light of the life course perspective and social determinants of health, the majority of plans, strategies, and tactics employed to address birth equity and infant mortality focus solely on the nine months of pregnancy. This does a disservice to both mothers and babies and perpetuates the existing inequities in birth outcomes.

While we should certainly press on with our pregnancy-period interventions, it is imperative that we move into a new sphere – addressing women's health before they become pregnant. This includes creating healthy environments and providing support throughout the lifetime. This is especially important for women of color, who are more likely to experience the stressors that drive poor birth outcomes.

This brief advocates for expanded efforts to address the relevant stressors and makes the following three recommendations based on existing research:

1. That we address the mental and physical consequences of trauma, chronic stress, and racism by integrating trauma-informed practices into existing infant mortality prevention programs and adopting a trauma-informed community approach to improve the social and emotional health of women in Ohio's at-risk communities.
2. That we emphasize preconception health, with a special focus on preconception mental health screening and treatment.
3. That we directly address the social determinants of health utilizing a combination of short-term targeted approaches and long-term inclusive neighborhood revitalization approaches to remedy the present and historic consequences of disinvestment in our high-risk communities.

Bringing Ohio's strong medical interventions together with social, emotional, and community strategies could be the key to long-term success in reducing our infant mortality disparities and dramatically lowering our overall infant mortality rate.



I. Introduction

Black babies die at nearly three times the rate of non-Hispanic White babies. Unfortunately, at this point, this alarming statistic has become old news. For decades, deep disparities in infant mortality, overall life expectancy, socio-economic status, education, and housing, have been our shameful truth.

Infant mortality is a focal point across the country for two reasons. First, the untimely death of even one baby is too many. Second, the scourge of infant mortality is a symptom we use to diagnose the overall health and well-being of a community, and by global standards, the U.S. is failing. According to the CIA, the U.S. currently ranks 56th out of 225 countries in infant mortality, coming in after Bosnia and Herzegovina, Latvia, and Guam.¹

Collectively, our state's agencies and organizations have taken many steps to triage the situation during this state of emergency. We have managed to lower overall infant mortality rates for all races over the

last two decades with a strong emphasis on prenatal medical care and clinical interventions. However, we have not managed to eliminate the deep racial disparity in our birth outcomes. As a state, Ohio ranks near the bottom on Black infant mortality.

Infant mortality is a symptom to an underlying problem. The high rates of infant death among minority groups indicate that we have failed to provide our communities with the resources they need to thrive. These rates reflect active disinvestment that has occurred through decades of discriminatory public policies that segregate communities and create barriers to opportunity and achievement.

The silver lining is this: if public policy could effectively create such deep health and community disparities, surely it can be used to create safe, healthy, and economically whole communities. This issue brief describes some causes driving inequitable birth outcomes and provides pathways to safer pregnancies, better birth outcomes, stronger neighborhoods, and more equitable communities.

II. The Facts and the Data

It is well known by now that Ohio, as well as nearly every other state in the country, is struggling with unacceptably high racial inequity in infant mortality. Ohio's Black infant mortality rate is 15.2 infant deaths per 1,000 live births—nearly three times higher than the White infant mortality rate of 5.8.² This gap is notable in Ohio because the gap has continued to increase even while our state is heavily investing in infant mortality reduction efforts. The Black infant mortality rate rose from 13.8 in 2013 to 15.1 in 2015. Then it rose again to 15.2 in 2016. During the same time period, the White infant mortality rate fell from 6.0 to 5.8. While Black Ohioans make up only 12% of Ohio's population, they account for more than a third (36%) of infant deaths in the state.

The rising tide has lifted all ships, bringing the Black infant mortality rate from 19.5 in 1990 down to 15.2 in 2016 and the White rate from 8.0 to 5.8 in the same time period. Yet the disparity between Black babies and White babies has persisted.

III. Today's Primary Intervention Strategies

To combat infant mortality across the state, Ohio has made significant investments—multiple millions of dollars—in a number of strategies:

- **Community Engagement** to foster community buy-in
- **Safe Sleep Education and Programming** to reduce the risk of sleep-related infant deaths
- **Perinatal Smoking Reduction** to reduce the risks of preterm birth and other poor birth outcomes associated with smoking
- **Birth Spacing and Long-Acting Reversible Contraception** to ensure optimal time between pregnancies, reducing risk.
- **CenteringPregnancy** group prenatal care to foster social inclusion
- **Community HUBs** to connect pregnant women with social services and health providers
- **Breastfeeding** to ensure optimal infant nutrition and reduce the risk of Sudden Infant Death Syndrome, necrotizing enterocolitis, ear infections and GI infections
- **Progesterone** to prevent preterm birth for at-risk women

Disparities in Infant Mortality, Ohio (1999-2015)

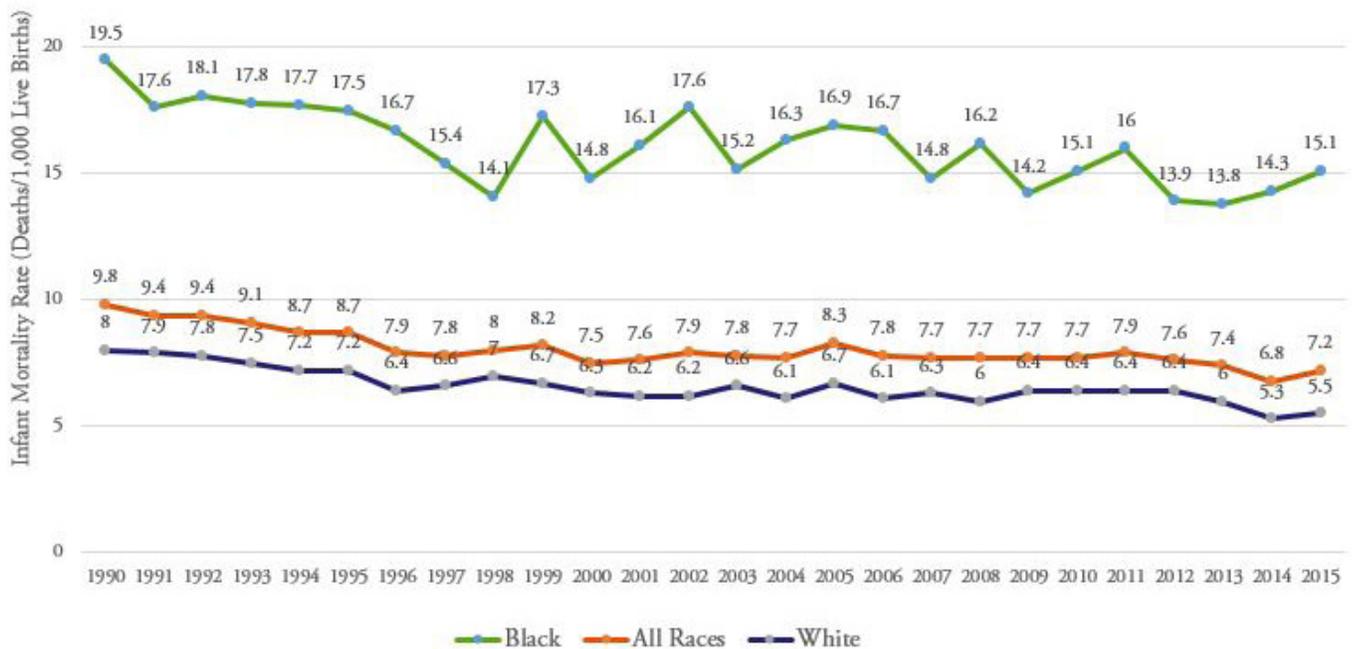


Chart adapted from: Ohio Department of Health, *2015 Ohio Infant Mortality Data: General Findings, 2* (2015), <https://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/cfhs/OEI/2015-Ohio-Infant-Mortality-Report-FINAL.pdf?la=en>.

Most of these critically important initiatives focus on the nine months of pregnancy—the exceptions being birth spacing and infant health-focused initiatives. However, experts are now pointing to life experiences and physical and mental health factors as the drivers of disparities in infant mortality.

IV. The Impact of the Social Determinants of Health

Our health is determined, in part, by our access to social and economic opportunities: the resources and supports available in our homes, neighborhoods, and communities; the quality of our schooling; the safety of our workplaces; the cleanliness of our water, food, and air; and the nature of our social interactions and relationships. These factors are referred to as the social determinants of health.

Health care is necessary for good health, but non-medical factors are estimated to be the most significant modifiable drivers of health outcomes.³

While social determinants can encompass a vast range of factors, Healthy People 2020 focuses on

five key areas:

- Economic Stability
- Education
- Social and Community Context
- Health and Health Care
- Neighborhood and Built Environment

The social determinants are closely linked to infant mortality—infant deaths are highly concentrated in neighborhoods with greater social and economic disadvantage. In its March 2016 report, the Ohio Commission on Infant Mortality explained that “nearly 1 in 4 of all infant deaths and nearly 1 in 3 of all non-white infant deaths occurred in... high risk neighborhoods. Understanding the relationship between how population groups experience the impact of ‘place’ on health is fundamental to the discussion.”⁴

Environmental and social factors shape health and pre-pregnancy health behaviors like whether a woman is consistently accessing appropriate physical and mental health care or facing stress cause by neighborhood safety issues.



Office of Disease Prevention and Health Promotion, *Social Determinants of Health*

V. How Life Course Stress, Trauma, and Racism Affect Maternal and Infant Health

Health status, behaviors, and attitudes are largely influenced by the surrounding community and society at large. Health outcomes are a complex interplay of biological, behavioral, psychological, social, and environmental factors that people experience throughout the course of their lives. The social, economic, and physical environments a person lives in year after year vastly influence their health.⁵

A growing body of evidence suggests that negative experiences across the life course—adverse childhood experiences, trauma, racism, and other preconception and maternal stress—could be at the heart of our birth disparities.

Adverse child experiences (ACEs)—like emotional, physical, or sexual abuse, neglect, household dysfunction, divorce, or incarceration of a household member—create real risks for poor birth outcomes.⁶ One study found that “[e]ach additional ACE decreased birth weight by 16.33 g and decreased gestational age by 0.063 [weeks].”⁷

High levels of stress during pregnancy can increase a woman’s risk for preterm birth by 25-60%.⁸ Maternal stress can even cause vascular disorders

like hypertension and preeclampsia—both contributing factors to preterm birth.⁹ Compound mental health issues—like post-traumatic stress disorder coupled with a major depressive disorder—can make a woman four times more likely to experience preterm birth.¹⁰

The research suggests that, on average, pregnant Black women experience a greater number of adverse life events and are more impacted by them than other racial or ethnic groups.^{11,12}

There is also evidence to suggest that stress may be more detrimental to Black pregnancies.^{13,14} Perceived racism across the lifetime, especially childhood experiences of racism, are strongly linked to low birth weight. And a body of research has found that perceived experiences of racial discrimination resulted in 1.3 to 3 times higher risks of preterm birth for Black women.^{15, 16}

In one study, Black mothers who delivered very low birth weight preterm infants were more likely to report experiencing racial discrimination during their lifetime than Black mothers who delivered normal weight infants at term.¹⁷

Accordingly, it is critical to address racism, not only in the context of cultural competency, but also as a life course factor in equitable birth outcomes.

In a study of both pregnant and non-pregnant Black and White women from Columbus, Ohio, researchers at the Ohio State University found that stress caused reactions within the body that linked to an increased risk of preterm birth. Notably, racially provocative stressors caused greater responses in Black women than race-neutral stressors, causing even higher levels of the harmful chemicals to be produced. The chemicals, compounded by chronic exposure to stress over long periods of time, led researchers to believe that stress experienced, even while not pregnant, may lead to a greater risk of preterm birth once a woman becomes pregnant.

Source: Lisa M. Christian, et. al, *Stress-Induced Inflammatory Responses in Women: Effects of Race and Pregnancy*, PSYCHOSOM MED (Jul. 19, 2013), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3788648/>.

VI. Recommendations

1. Adopt a Trauma-Informed Community Approach

Trauma-informed care seeks to mitigate the impact of trauma and adverse childhood experiences on long-term health. When programs or systems are trauma-informed, they recognize the symptoms and widespread impact of trauma; integrate knowledge about trauma into all practices; and seek to actively resist re-traumatization.

To address trauma during and before pregnancy, trauma-informed practices should be intergrated into infant mortality programs. In the long-term, we should work to create trauma-informed communities built on trauma-informed principles of 1. safety; 2. trustworthiness and transparency; 3. peer support; 4. collaboration and mutuality; 5. empowerment, voice, and choice; and 6. sensitivity to cultural, historical, and gender issues.

Baltimore, Maryland's B'more for Healthy Babies, Cowlitz County, Washington's Self-Healing Communities, and the United Neighborhood Centers of Milwaukee provide strong program and community models.

B'more for Healthy Babies

B'more for Healthy Babies (BHB) is a collective impact initiative that brings together communities, organizations, and resources in an effort to ensure every baby in Baltimore City, Maryland has the best start possible. It takes a collective impact approach and shares a number of the same initiatives being carried out in Ohio, including, safe sleep, home visiting, smoking reduction, and early access to prenatal care. BHB also implements a number of innovative programs like B'more Fit for Healthy Babies (B'more Fit).

B'more Fit aims to help mothers reach a healthy weight between pregnancies. The program offers weight-loss support and wellness education, group exercise classes taught by professional trainers, and help with budgeting and food preparation. B'more Fit also offers a comprehensive weight counseling toolkit to help providers improve their interactions with patients who are affected by excessive weight.

While B'more Fit is itself an innovation, Baltimore City pushed to innovate once more by introducing the Creating Cultures of Trauma-Informed Care (CCTIC) model. Acknowledging that trauma is pervasive, life-changing, and often self-

perpetuating, the model seeks to develop trauma-informed services.¹⁸

B'more Fit integrated the CCTIC model by creating a trauma workgroup and establishing a guiding standard for trauma-informed services. The workgroup conducts quantitative surveys and focus groups to measure adherence to trauma-informed practices. Based on the feedback collected by the workgroup, B'more Fit has introduced several program changes, including a "mindful minute" in fitness classes and the incorporation of trauma-informed care into their obesity management toolkit.¹⁹ Moving forward, BHB hopes to make all of their initiatives trauma-informed.

Trauma-Informed Community Approach

Self-Healing Communities:

Cowlitz County, Washington took a more comprehensive approach to trauma-informed care: the Self-Healing Communities Model (SHCM). SHCM is designed to build the capacity of communities so that they are able to define and solve the problems most relevant to them. It seeks to generate new cultural norms that more accurately reflect the values and goals that community members have for their children. Rather than solely focusing on direct service programs, SHCM encourages investment in layered strategies that foster resiliency and support parents as agents of cultural change.



Laura Porter, Kimberly Martin & Robert Anda, Self-Healing Communities: A Transformational Process Model for Improving Intergenerational Health, THE ROBERT WOOD JOHNSON FOUNDATION (Jun. 2016). https://www.resiliencetrumpsaces.org/images/Self-healing_community_report.pdf.

SHCM achieves community culture change in four phases:²⁰

1. Leadership expansion

During this phase, the community uses open conversations and personal invitations to engage community leaders from different sectors, neighborhoods, socioeconomic statuses, and political affiliations.

2. Focus

Communal goals are established as the community members engage and develop a shared understanding of community values and cultural patterns.

3. Learning

Iterative learning introduces new information and different perspectives, encouraging people to reconsider their assumptions through peer-to-peer connections, community conversations, and community celebrations.

4. Results

When communities use data to inform their decisions and strive to engage all community members in decision making, the results are reflective of local needs. Community involvement increases overall success and supports long-term commitment to community culture change.

Since the initiative began in the early 1990s, the county has seen incredible results:

- Infant mortality decreased by 43%
- Births by teen mothers decreased by 62%
- Youth suicide and suicide attempts decreased by 98%
- Youth arrests for violent crime decreased by 53%
- High school dropout rates decreased by 47%



Pixabay user btchurch, *untitled*.

Lifecourse Initiative for Healthy Families:

The United Neighborhood Centers of Milwaukee Lifecourse Initiative for Healthy Families is also working to develop a trauma-informed community. The initiative is a partnership between United Neighborhood Centers of Milwaukee and the University of Wisconsin School of Medicine and Public Health. It targets socioeconomic conditions and stress, and seeks to strengthen families and communities to support parents and improve birth outcomes. The initiative works to build broad community buy-in, demonstrate strategic leadership, advance evidence-based policy, and leverage resources and connections in the community.

Considering the impact of trauma and stress on birth outcomes and the evidence that Black Ohioans are experiencing trauma and stress at elevated levels, Ohio should adopt a trauma-informed program and community approach to enhance its current initiatives and directly combat trauma, toxic stress, and their deadly aftermath.

2. Promote enhanced attention to women's health before her first pregnancy and between pregnancies

Preconception maternal health is intimately related to prenatal and postnatal maternal health, as well as fetal development and infant health.²¹ When women receive preconception health care and counseling, they are less likely to have unintended pregnancies and are more likely to consume daily multivitamins, receive adequate prenatal care when pregnant, and quit drinking before pregnancy. Preconception counseling is also associated with increased likelihood of a healthy pregnancy, for both the mom and the infant.²²

In general, women with more frequent mental distress are less likely to have good preconception health,²³ increasing the risk of pregnancy complications (i.e. non-live births and low birth weight).²⁴

Ohio should work to address preconception mental health, especially for Black women living in at-risk



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communities. The first step would be to ensure that all women of reproductive age receive the appropriate screenings. While depression screening is recommended for all primary care visits, it is especially essential to provide this service to women who are or may soon become pregnant.

Additionally, Ohio needs to expand the number of providers who emphasize preconception care and conduct psychosocial risk assessments before and throughout pregnancy. As part of this, Ohio should track the interventions used so that we are able to track the associations between interventions and birth outcomes.

If a woman receives a mental health diagnosis, she must also receive appropriate treatment to mitigate the risks associated with mental illness. Historically, interpersonal psychotherapy (IPT) has proven to be a successful intervention for treating depression

during pregnancy and motherhood for both middle- and low-income women.²⁵ Psychotherapy may have some benefits over pharmacotherapy because it may help patients develop new coping strategies, thus providing long-term protection from depressive symptoms.

Currently, most research focuses on the success of IPT in treating depressive symptoms in pregnant women or new mothers. However, the same framework can be utilized to treat preconception mental health in women.

By addressing mental health in the preconception period, women will have better mental health and will develop the skillset to mitigate depressive symptoms if they should arise again. This will help to improve health outcomes for both women and their infants.

3. Directly Address the Social Determinants of Health – A Targeted Approach

Housing

A strong body of evidence illustrates the connection between homelessness or housing insecurity and poor birth outcomes. Homelessness is associated with poor maternal physical and mental health and with unmet need for health services.²⁶ In addition, homeless pregnant women are less likely to receive adequate prenatal care, take prenatal vitamins, and breastfeed. They are also more likely to smoke.²⁷ Ultimately, homelessness is associated with premature birth and low birth weight. Housing insecurity presents similar risks.

Conversely, pregnancy is associated with an increased risk of homelessness as significant changes to living arrangements, like the birth of a new baby, push many women living in unstable conditions into homelessness.

Ohio has already taken the first step in addressing housing as a factor influencing infant mortality. The Ohio Housing Finance Agency is working in partnership with the Ohio Department of Health to establish a housing pilot program for high risk pregnant moms.

Boston, Massachusetts instituted a similar program in 2011 called Healthy Start in Housing (HSiH). HSiH is a partnership between the Boston Housing Authority (BHA) and the Boston Public Health Commission (BPHC) that combines intensive case management with priority access to housing in the city's traditional family housing developments.²⁸ Participating women are eligible for priority access to housing only if they sign a contract affirming their intent to comply with all HSiH requirements, including ongoing participation in intensive case management for 12 months. HSiH case managers receive special training to work with their clients.

The development of the Healthy Start collaboration was facilitated by 3 major factors. First, the agencies recognized the need for interdependence and the opportunity to accrue direct benefits through collaboration.²⁹ Second, the relationship was facilitated by a history of previous interagency collaboration. And third, clear and mutually shared goals established a strong base for the partnership.

As Ohio steps deeper into addressing housing and infant mortality, these lessons may serve to ensure the success of the initiative.

Transportation – The Columbus Way

Columbus, Ohio is the recent winner of a \$40 million grant from the U.S. Department of Transportation's Smart City Challenge. That money will supplement \$100 million in investments from private partners.

As part of the Smart City Challenge, the city will implement a range of technology fixes to address the transportation access issues that undermine maternal and infant health in Linden, a distressed Columbus community. Otherwise short car rides for medical care in the area can take up to an hour by public transportation and may involve long stretches of walking—a difficult task if you are pregnant. To assist the many residents who do not have credit cards—making ride sharing services off limits—the city will develop kiosks that exchange cash for electronic currency.³⁰ Free Wi-Fi mounted to the street lights will keep locals connected.³¹

The city has already made changes to some of its bus routes to accommodate pregnant women, including creating a faster and more frequent option for residents of Linden.³²

Ohio should take note of the successes of this project, and work to apply similar approaches in the state's other distressed counties.

4. Directly Address the Social Determinants of Health Through Inclusive Neighborhood Revitalization – A Community Approach

Because neighborhoods and the environments in which people live are so crucial to health outcomes, inclusive neighborhood revitalization efforts should be used to improve the resources available to community members. By including local residents in the process, it is more likely that the proposed solutions address existing, specific problems and build long-term commitment to community strengthening.

Several programs around the country provide examples for how inclusive neighborhood revitalization projects can be effectively used to reduce infant mortality rates.

Best Baby Zones

Best Baby Zones (BBZ) started as a multi-sector approach aimed at reducing disparities in infant mortality and birth outcomes. Using a life course approach, the initiative mobilizes community residents and organizational partners to address the social determinants of health.³³

BBZ focuses on some traditional health care services, including home visits, referrals for families, and breastfeeding support. However, most of the efforts rely on nontraditional sectors, including education, economic support, built environment, and other community services.

As one of the first pilot BBZ communities, the Price Hill neighborhood in Cincinnati offers an example of how other communities in Ohio can adopt similar strategies.³⁴ The Price Hill initiative is led by Cincinnati Children’s Hospital Medical Center in partnership with Santa Maria Community Services and Every Child Success (ECS). In Price Hill, BBZ offers home visits through its partnership with ECS and a parent support group that builds leadership and advocacy skills. BBZ hires community liaisons to engage neighborhood residents and to ensure that all homes have their basic needs met.

In this neighborhood, 40% of residents and 56% of children live in poverty, but half of residents feel that people are willing to help their neighbors. This strong sense of community contributes to the success of this program.



BEST BABIES ZONE, ABOUT US, <http://www.bestbabieszone.org/About-Us-2016> (last visited August 9, 2017).

As part of the BBZ initiative in Price Hill, Santa Maria Community Services started the Healthy Homes Block by Block program in which parents from the neighborhood are hired as Block Captains. Block Captains pay regular home visits to families and help to foster a healthy home environment by sharing information, resources, and supplies. Block Captains bring children's books and information about safe sleep, while also ensuring parents know where to go for prenatal, postpartum, and well-child visits. These designated community members also help to connect neighbors to each other, encouraging greater community engagement.

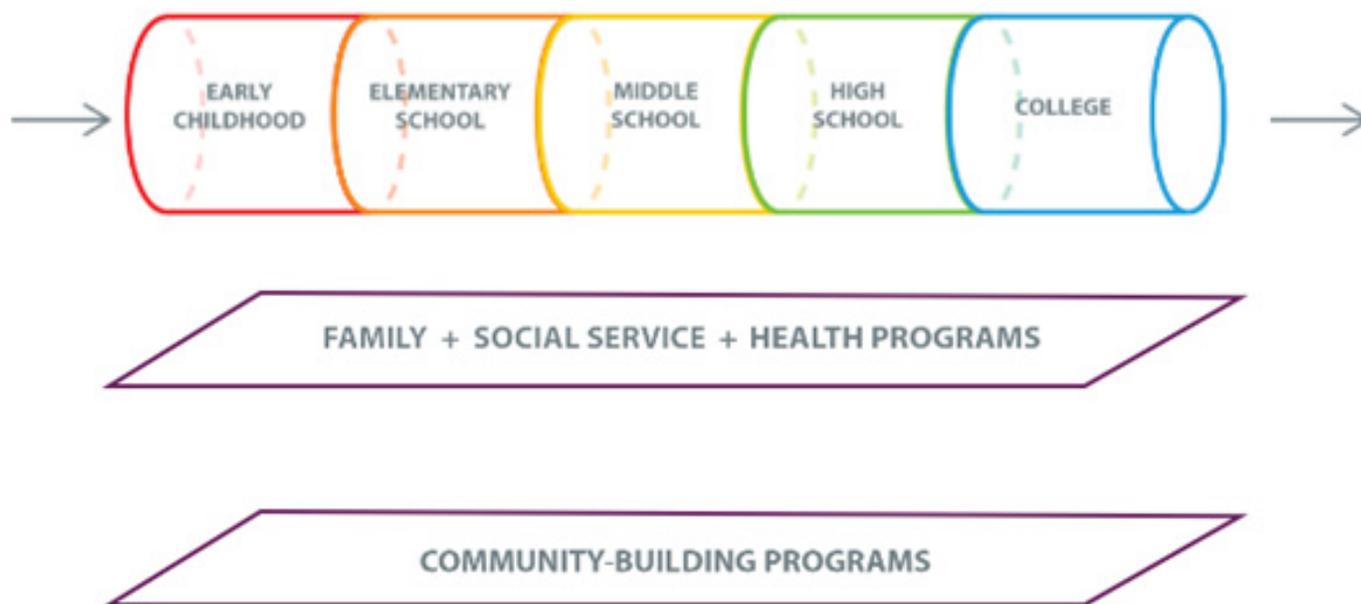
Harlem Children's Zone

In New York, a similar community-based initiative is working to disrupt the cycle of generational poverty. Harlem Children's Zone (HCZ) gives children individualized support throughout childhood with a goal of getting them through college and developing them into self-sustaining adults. HCZ takes a life course approach with separate programs designated for children in early childhood, elementary school, middle school,

high school, and college. The initiative attempts to address the social determinants of health by focusing on education, social services, family support, and community-building programs in addition to health. In the past year, HCZ has served more than 12,000 children across 97 blocks in central Harlem.

To support children in their first years of life, HCZ has developed several programs aimed at building a strong foundation for educational success. One such program, The Baby College®, works to create healthy, supportive home environments from the very start.³⁵ The program offers workshops and home visits over the course of nine weeks to teach expectant and new parents about child behavior and safety, communication and intellectual stimulation, linguistic and brain development, and health and nutrition. The curriculum promotes a sense of community through sharing and discussing personal experiences. Parents are given the opportunity to build a support network and to learn from their peers. Since 2000, The Baby College® has graduated more than 5,700 individuals.

The Harlem Children's Zone Pipeline



HARLEM CHILDREN'S ZONE: ABOUT US, <http://hcz.org/about-us/> (last visited Jun. 29, 2017).



HCZ has also created programs and provides resources to encourage healthy eating and activity. HCZ's Healthy Harlem provides nutrition education and recreational activities to promote lifelong healthy habits.³⁶ At the state-of-the-art Harlem Armory, children and families can participate in fitness and nutritional classes. Additionally, HCZ Food Services prepares 1.4 million healthy meals each year to offer students breakfast, lunch, and snacks every school day.

Each of these projects exemplifies strategies for incorporating inclusive neighborhood revitalization into infant mortality reduction initiatives. Such projects are most effective when community members are engaged in a meaningful way. It is equally important to incorporate not only direct service and health care providers, but also other organizations in the community that provide services related to the social determinants of health. In doing so, projects are more holistic and better able to address some of the most pressing causes of infant mortality.

VII. Conclusion

The great body of evidence shows that to effectively combat infant mortality, we must address trauma, social, and emotional health and reduce the stress and negative patterns associated with the social determinants of health. This is the starting point. Recognizing the history of racism and oppression that has nurtured today's environment and allowed health disparities to grow is a crucial part of the fight to achieve health equity. We must holistically address family and individual needs on multiple fronts to heal neighborhoods that have suffered from lack of investment and must establish policies that allow every Ohioan to thrive. By investing in our communities and providing comprehensive care to women, we can combat the disparities that persist among infant mortality rates in our state.

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Children's Defense Fund–Ohio

A strong, effective, independent voice for *all* children

MISSION STATEMENT

The Children's Defense Fund Leave No Child Behind® mission is to ensure every child a *Healthy Start*, a *Head Start*, a *Fair Start*, a *Safe Start* and a *Moral Start* in life and successful passage to adulthood with the help of caring families and communities.

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